

### REMARKS

In the Office Action, the Examiner allowed claims 59-63, rejected claims 1-8, 11, 12, 18, 19, 21-24, 29, 30, 52, 53, 56, and 57, and objected to claims 9, 10, 13, 14, 17, 20, 27, 28, 31-34, 54, 55, and 58. The Examiner also indicated claims 9, 10, 13, 14, 17, 20, 27, 28, 31-34, 54, 55, and 58 as allowable if rewritten in independent form. By this paper, the Applicants amended claims 1, 2, 3, 5, 7, 11, 17, 18, 19, 20, 21, 23, 24, 27, and 52 to clarify certain features and to expedite allowance of the present application. The Applicants also added new dependent claims 64-72. These amendments do not add any new matter. For example, the Applicants note that original and still pending claim 23 recites, *inter alia*, molding a ball onto a stud. Applicants respectfully request reconsideration and allowance of the pending claims in view of the foregoing amendments and the following remarks.

### Claim Rejections – 35 U.S.C. § 102

The Examiner rejected claims 1, 3-6, 11-12, 18, 19, 24, 29, 30, 52 and 53 under U.S.C. § 102(b) as anticipated by Jackson (U.S. Patent No. 4,290,181). Applicants respectfully traverse this rejection.

### ***Legal Precedent***

Anticipation under section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). To maintain a proper rejection under section 102, a single reference must teach each and every limitation of the rejected claim. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984). Accordingly, the Applicants need only point to a single element not found in the cited reference to demonstrate that the cited reference fails to anticipate the claimed subject matter. The prior art reference also must show the *identical* invention “*in as complete detail as contained in the ... claim*” to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

Additionally, if the Examiner relies on a theory of inherency, the extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999) (Emphasis Added). The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. *Id.* In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). The Examiner, in presenting the inherency argument, bears the evidentiary burden and must adequately satisfy this burden. *See id.* Regarding functional limitations, the Examiner must evaluate and consider the functional limitation, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. *See* M.P.E.P. § 2173.05(g); *In re Swinehart*, 169 U.S.P.Q. 226, 229 (CCPA 1971); *In re Schreiber*, 44 U.S.P.Q.2d 1429, 1432 (Fed. Cir. 1997). If the Examiner believes the functional limitation to be inherent in the cited reference, then the Examiner “must provide some evidence or scientific reasoning to establish the reasonableness of the examiner’s belief that the functional limitation is an inherent characteristic of the prior art.” *Ex parte Skinner*, 2 U.S.P.Q.2d 1788, 1789 (Bd. Pat. App. & Inter. 1986).

### ***Independent Claims***

Turning to the claims, independent claim 1 recites, *inter alia*, “providing a studded ball having a *ball molded* about a stud; and *over-molding* the studded ball.” Independent claim 7 recites, *inter alia*, “*molding a ball* about a stud to form a studded ball; and *over-molding* the studded ball.” Independent claim 24 recites, *inter alia*, “providing a studded ball having a *ball molded* about a stud; *injecting mold material* into a cavity between the studded ball and a support structure for the studded ball.” Independent claim 52 recites, *inter alia*, “centering a studded ball having a *ball molded* about a stud . . . and *injecting mold material* between the studded ball and the desired structure.”

### ***Deficiencies of Jackson***

In sharp contrast, Jackson teaches only one structure, i.e., the plastic bearing material 16, formed by injecting material through the injection fitting 56 into the cavity 22 between the ball 36 and the housing 12. *See* Jackson, Fig. 1; Col. 2, lines 35-65. However, the ball 36 is not *molded* about a stud, as set forth in claims 1, 7, 24, and 52. Thus, the Jackson reference fails to teach each and every feature of the instant claims.

For these reasons, the Applicants respectfully request the Examiner withdraw the rejections of the foregoing claims under 35 U.S.C. § 102.

### **Claim Rejections – 35 U.S.C. § 103(a)**

Under 35 U.S.C. § 103(a), the Examiner rejected claims 2, 21-23, and 56 as unpatentable over Jackson in view of Runyan et al. (U.S. Patent No. 4,430,285) and rejected claims 7-8 as unpatentable over Jackson in view of Borgen et al. (U.S. Patent No. 4,439,909). Applicants respectfully traverse these rejections.

### ***Legal Precedent***

First, the burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d. 1430 (Fed. Cir. 1990). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the

claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). The Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). Moreover, a statement that the proposed modification would have been “well within the ordinary skill of the art” based on individual knowledge of the claimed elements cannot be relied upon to establish a *prima facie* case of obviousness without some *objective reason to combine* the teachings of the references. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993); *In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d. 1313, 1318 (Fed. Cir. 2000); *Al-Site Corp. v. VSI Int’l Inc.*, 174 F.3d 1308, 50 U.S.P.Q.2d. 1161 (Fed. Cir. 1999).

Second, when prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Third, it is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 U.S.P.Q. 769, 779 (Fed. Cir. 1983); M.P.E.P. § 2145. Moreover, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (CCPA 1959); see M.P.E.P. § 2143.01.

#### ***Claims 2, 21-23, and 56***

Each of these claims depends from one of the independent claims 1 and 52. As discussed above, independent claim 1 recites, *inter alia*, “providing a studded ball having a *ball molded*

about a stud; and *over-molding* the studded ball *movably* within a desired structure to form the mechanical joint.” Independent claim 52 recites, *inter alia*, “centering a studded ball having a *ball molded* about a stud . . . and *injecting mold material* between the studded ball and the desired structure.”

As discussed in detail above, the Jackson reference does not teach each and every element of these independent claims. Specifically, Jackson does not teach a ball *molded* on a stud, as set forth in claims 1 and 52. Moreover, the Runyan et al. reference does not obviate the deficiencies of Jackson. Applicants stress that Runyan et al. do not teach or suggest molding a ball onto a stud, as set forth in claims 1 and 52. Runyan et al. also fail to teach or suggest *over-molding* the studded ball *movably* within a desired structure, as recited in claim 1. Instead, Runyan et al. discloses a *shield* 30 disposed about a plug 14, such that mold material never contacts the plug 14. See Runyan et al., Figs. 1 and 2; Col. 3, lines 35-43. Thus, Runyan et al. clearly fail to teach or suggest over-molding, as recited in claim 1. For these reasons, the cited references, taken alone or in combination, fail to teach or suggest the features recited in claims 1 and 52.

In view of these deficiencies, Applicants respectfully request the Examiner withdraw the rejection of claims 2, 21-23, and 56 under 35 U.S.C. § 103.

#### *Claims 7-8*

Independent claim 7 recites “*molding a ball about a stud* to form a studded ball; and *over-molding the studded ball* movably within a desired structure to form the mechanical joint, wherein over-molding comprises *creating a temperature differential* in which the studded ball is hotter than the desired structure.”

As discussed in detail above, the Jackson reference fails to teach or suggest molding a ball about a stud, as set forth in claim 7. Moreover, the Borgen et al. reference does not obviate the deficiencies of Jackson. Applicants stress that Borgen et al. do not teach or suggest molding a ball onto a stud, as set forth in claim 7. In contrast, Borgen et al. disclose a metal ball stud 14

having a preformed plastic liner 18. *See* Fig. 1; Col. 1, lines 45-49. Borgen et al. also fail to teach or suggest *over-molding* the studded ball *movably* within a desired structure, as recited in claim 7. Instead, Borgen et al. discloses a *melting* the plastic liner 18 in a socket housing 12. *See* Fig. 1; Col. 1, lines 21-26 and 43-49; Col. 2, lines 56-65. Additionally, Borgen et al. do not disclose *over-molding* comprising *creating a temperature differential*, as recited in claim 7. Instead, the heating disclosed by Borgen et al. is only for *melting* the plastic liner 18, rather than any sort of molding process. *See* Fig. 1; Col. 1, lines 21-26; Col. 2, lines 56-65. For these reasons, the cited references, taken alone or in combination, fail to teach or suggest the features recited in claims 7 and 8.

In addition, the cited references are not properly combinable, because Jackson and Borgen et al. teach away from one another. Specifically, Jackson teaches a principle of operation involving *molding*, whereas Borgen et al. discloses a principle of operation involving *melting* a preformed plastic liner 18. As discussed above, a *prima facie* case of obviousness cannot stand on a combination of references, which would change the principle of operation of each respective reference. In view of the different principles of operation of Jackson and Borgen et al., Applicants respectfully request that the Examiner withdraw the improper combination of Jackson and Borgen et al.

For these reasons, the Applicants respectfully request the Examiner withdraw the rejection of claims 7-8 under 35 U.S.C. § 103.

#### New Claims

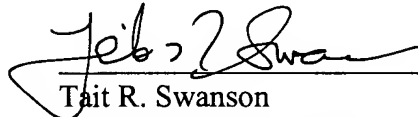
As discussed above, the Applicants added new dependent claims 64-72 to recite various additional features. For the reasons discussed above with reference to the independent claims, the Applicants believe these new claims are also patentable over the cited references and in condition for allowance.

**Conclusion**

The Applicants respectfully submit that all pending claims should be in condition for allowance. However, if the Examiner believes certain amendments are necessary to clarify the present claims or if the Examiner wishes to resolve any other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

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Tait R. Swanson  
Registration No. 48,226  
FLETCHER YODER  
P.O. Box 692289  
Houston, TX 77269-2289  
(281) 970-4545